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09/931,393	08/14/2001	Tim Wilkinson	TRAS-550	1577

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EXAMINER
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LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 08/25/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/931,393

Applicant(s)

WILKINSON ET AL

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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*Drawings*

1. The drawing is of insufficient quality for publication (Note handwritten portions).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Claim Objections*

2. Claim 17 is objected to because of the following informalities: the term “ws” is not understood by one skilled in the art. Appropriate correction is required.

*Claim Rejections - 35 USC § 101*

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1 and 18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The limitation “handwriting recognition software program” must be on either a storage medium or a CPU/processor in order to be properly functioned.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-2, 5-8, 13, 15, 19-20, 23-26, 31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakaguchi U.S. Patent No. 5,579,408.

Regarding claim 1, Sakaguchi teaches a handwriting recognition software program (column 1, lines 45-57) for providing instructions to one or more processors (column 3, lines 25-30) to execute processes on an embedded device configured for establishing a network connection (communication with the digitizer) with at least one other computing device (digitizer is another device) (column 3, lines 34-48), comprising:

(a) an encoding module for encoding character strokes input into an input device as integer values (FIG. 4-6); and

(b) a character recognition module for recognizing characters from the integer values (registers partial pattern data which are integer values indicating directions of strokes input for recognition processing) (column 2, lines 10-31 and FIG. 10).

For claim 2, Sakaguchi also teaches the handwriting recognition software program of claim 1, wherein the encoding module is configured to encode characters as a series of at least one directional movement performed on the input device (FIG. 2, FIG. 3a-3b and FIG. 4).

Referring to claim 5, Sakaguchi discloses the handwriting recognition software program wherein each character stroke is recognized as an integer selected from a group of integers consisting of at least four integers (numbers of feature stroke data) (FIG. 7, element 73 and column 5, lines 15-22).

Regarding claim 6, Sakaguchi also discloses the handwriting recognition software wherein the at least four integers at least include integers corresponding to four movement

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directions on the input device (FIG. 2, and FIG. 3a-3b).

Referring to claim 7, Sakaguchi further discloses the handwriting recognition software wherein the at least four integers further include an integer corresponding to a closed stroke (FIG. 3a, elements 7-9).

For claim 8, Sakaguchi teaches the handwriting recognition software program wherein the at least four integers further include an integer corresponding to a closed stroke (FIG. 7).

Regarding claim 13, Sakaguchi teaches the handwriting recognition software program wherein the character recognition module is configured to recognize multi-stroke Characters (FIG. 7, element 72).

For claim 15, Sakaguchi teaches the handwriting recognition software program wherein a multi-stroke character is recognized when the character recognition module fails to recognize a single stroke as a character (the process of continue to access to the pattern dictionary to provide alternative recognitions for stroke) (FIG. 10).

For claims 19-20, please refer back to claims 1-2 for the teachings and explanations.

For claims 23-26, please refer back to claims 5-8 for the teachings and explanations.

Regarding claim 31, please refer back to claim 13.

For claim 33, please refer back to claim 15.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3-4, 14, 16-18, 21-22, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Sakaguchi U.S. 5,579,408 and Maxted U.S. Patent No. 6,340,967 as applied to claim 1 above.

Regarding claim 3, Sakaguchi teaches the handwriting recognition software program that comprises the extraction of strokes but not the recognition of the termination of a stroke (column 7, lines 13-16). Maxted teaches a handwriting recognition method comprises the recognition module configured to recognize termination of a stroke near a beginning point for recognizing closed characters (The determination of when the pen is up/stroke termination) (FIG. 8A-8B, FIG. 9 and column 32, lines 23-25). Modifying Sakaguchi's method of handwriting recognition software according to Maxted would be able to determine the termination of the stroke for better handwriting recognition. This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Sakaguchi according to Maxted.

Regarding claim 4, Sakaguchi further teaches the handwriting recognition software wherein the character recognition module is configured to recognize pen up-down events for encoding multiple stroke characters (column 32, lines 60-67).

For claim 14, Sakaguchi also teaches the handwriting recognition software program wherein a multi-stroke character is recognized when a time between pen-up and pen-down is less than a threshold time, and to recognize that a character is complete when the time between pen-up and pen-down exceeds the threshold time (whether or not the time between pen-up and pen-down exceed/elapses default time) (column 29, lines 35-48). Modifying Sakaguchi's method of handwriting recognition software according to Maxted would be able to further

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determine to pen status and the termination of the stroke for better handwriting recognition.

This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Sakaguchi according to Maxted.

Regarding claim 16, Maxted further teaches the handwriting recognition software program wherein when a time between pen-up and pen-down exceeds a threshold time and a character is not yet recognized, the character recognition module is configured to reset and Restart (p-timer) (column 27, lines 31-43).

For claim 17, Maxted teaches the handwriting recognition software program wherein a plurality of spatial areas are defined on the input device, and the character recognition module recognizes that a character is complete when a pen-down event occurs in a different box from the one wherein a character was just being input (column 32, lines 43-67).

Regarding claim 18, please refer back to claim 1 and 17 for the mentioned limitations. In addition, Maxted teaches a plurality of spatial areas are defined on the input device (FIG. 4).

For claims 21-22, please refer back to claims 3-4 respectively for the teachings and explanations.

For claim 32, please refer back to claim 14.

Regarding claim 34, please refer back to claim 16.

Also to claims 35-36, please refer back to claims 17-18 respectively for the teachings.

9. Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi U.S. Patent No. 5,579,408.

Regarding claim 9, Sakaguchi teaches the handwriting recognition software program wherein each character stroke is recognized as an integer which is represented by less than

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four bits of information (column 4, lines 35-39 and FIG. 4-FIG.6). Also, it is a designer to have the memory (greater or less than four bits of information) to store the integer value. Thus, it would have been obvious for one skilled in the art to design a memory less than four bits of information to represent integer value of strokes.

For claims 27, please refer back to claim 9 for the teaching and explanation.

10. Claims 10-12, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Sakaguchi U.S. 5,579,408 and Altman U.S. Patent No. 5,613,019 as applied to claim 1 above.

Regarding claim 10, Sakaguchi does not explicitly teach the handwriting recognition software program wherein the character recognition module is configured to recognize a minimum distance between position samples as an instance of a new sample. Altman teaches handwriting recognition method wherein the character recognition module is configured to recognize a minimum distance between position samples as an instance of a new sample (column 35, lines 49-51). Modifying Sakaguchi's method of handwriting recognition software according to Altman would be able to analyze the distance between strokes and predetermined threshold and thus improve the handwriting recognition and display fidelity (column 35, lines 50-60). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Sakaguchi according to Altman.

For claim 11, Altman further teaches the handwriting recognition software program wherein the character recognition module is configured to recognize an end distance between a beginning and an ending of a stroke (column 29, lines 1-5).



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Regarding claim 12, Altman also teaches the handwriting recognition software program wherein the character recognition module is configured to recognize a closed character when the end distance is less than a maximum distance (column 36, lines 49-54).

For claims 28-30, please refer back to claims 10-12 respectively for the teachings and explanations.

### *CONCLUSION*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to handwriting recognition:

U.S. Pat. No. 5,563,959 to Gallo, teaches character recognition.

U.S. Pat. No. 6,215,901 to Schwartz, teaches pen based computer handwriting instruction.

U.S. Pat. No. 6,646,573 to Kushler, teaches reduced keyboard text input system for the Japanese language.

U.S. Pat. No. 5,812,698 to Platt, teaches handwriting recognition system.

U.S. Pat. No. 5,633,955 to Bozinovic, teaches method of connecting shapes on a display of a computer system.

U.S. Pat. No. 6,240,209 to Wilcke, teaches method for deriving character features in a character recognition system.

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U.S. Pat. No. 5,231,698 to Forcier, teaches script/binary-encoded-character processing method and system.

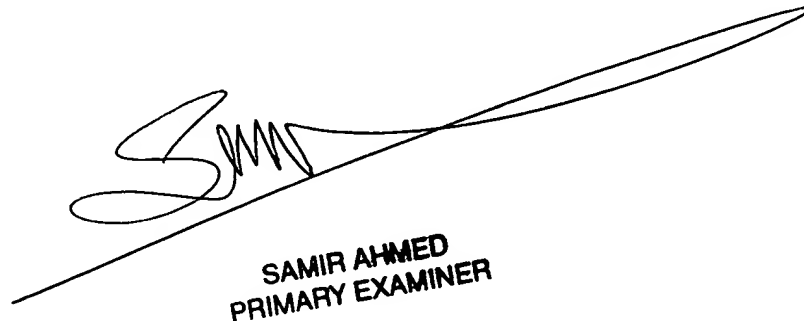
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL

August 23, 2004



**SAMIR AHMED  
PRIMARY EXAMINER**